CLAIMS:

5   1.   A method of compensating for carrier frequency and phase errors of a received multi-carrier modulated signal, the received multi-carrier signal including modulated carriers for transmitting known data and unmodulated carriers for error correction, comprising:

10   time domain down converting the received multi-carrier signal to base-band to provide a down-converted signal, the down-converted signal including a plurality of modulated carriers for transmitting known data and unmodulated carriers for error correction;

15   sampling an unmodulated carrier of the down-converted signal to provide received data samples;

providing a reference signal derived from the unmodulated carrier of the down-converted signal; and

estimating phase errors from a phase difference between the

20   ummodulated carrier and the reference signal derived from the unmodulated carrier of the down-converted signal to provide a plurality of received sample phase error estimates for each modulated carrier.

25   2.   A method of compensating for carrier frequency and phase errors of a received multi-carrier modulated signal, the received multi-carrier signal including modulated carriers for transmitting known data and unmodulated carriers for error correction, comprising:

30   time domain down converting the received multi-carrier signal to base-band to provide a down-converted signal, the down-converted signal including a plurality of modulated carriers for transmitting known data and unmodulated carriers for error correction;

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sampling an unmodulated carrier of the down-converted signal to provide received data samples;

5   providing a reference signal derived from the unmodulated carrier of the down-converted signal;

estimating phase errors from a phase difference between the ummodulated carrier and the reference signal derived from the unmodulated carrier of the down-converted signal to provide a

10   plurality of received sample phase error estimates for each modulated carrier;

coherently adding each of the plurality of received sample phase error estimates to one of the plurality of modulated carriers for transmitting known data to provide a compensated

15   down-converted signal; and

frequency domain converting the compensated down-converted signal suitable for DSP signal processing.

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